REMARKS

This is intended as a full and complete response to the Final Office Action dated January 11, 2006, having a shortened statutory period for response set to expire on March 11, 2006. Please reconsider the claims pending in the application for reasons discussed below.

Claim Rejections - 35 U.S.C. § 103

Claims 1-3, 5-7 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over GB 2092717 (*Weirich*). The Examiner states in the Final Office Action that "the drawings in each piece of prior art show respective areas that are similar in ratio to the respective areas shown in Applicant's drawing." However, Applicant submits that the Examiner has misconstrued any such comparison of the prior art with the claimed invention.

Claim 1 recites that "an area of the valve seat and an area of a portion of the pilot actuator acted on in an axial direction by fluid flowing through the valve seat are substantially the same." As illustrated in Figure 2 of the present invention, the valve seat identified as reference character 22 is defined by a point of contact for a ball, thereby forming a cross sectional area within this circumferential point of contact. This seat as identified is shown in-line with an inner diameter of a piston rod gasket (34), which defines "an area of a portion of the pilot actuator acted on in an axial direction by fluid flowing through the valve seat." In operation, the piston rod gasket prevents fluid from acting on any area of the pilot actuator disposed opposite the gasket. Paragraphs [0013], [0024] and [0025] of the specification describe the advantageous effect achieved due to the claimed arrangement since "the pilot piston rod is exposed to substantially the same fluid force before and after the valve body moves to open the valve."

By contrast, *Weirich* illustrates in Figures 1-3 a valve seat area larger than an area of a push rod acted on in an axial direction by fluid flowing through the valve seat. For example, a gasket (reference character 25 in Figure 1) has a smaller inner diameter than even a smallest diameter of a bore that a ball contacts somewhere along the inner diameter thereof to form a valve seat and corresponding valve seat area. Therefore,

the push rod (24) cross sectional area within the inner diameter of the gasket is smaller than the valve seat area and cannot be "deemed to be substantially the same" as the Examiner states. Based on the foregoing discussion, the lack of the areas being substantially the same is clearly visible in Figure 1 and also apparent in the schematic Figures 2 and 3 based on the perceptible point of contact of a ball on the valve seat in each of these Figures. Further, the specification in *Weirich* is silent regarding the actual relative areas of these features.

Therefore, *Weirich* fails to teach, show or suggest each and every limitation of claim 1 and does not render claim 1 or any claim dependent thereon obvious. Applicant submits that the claims are allowable. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

Claims 1, 2 and 5-9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Seaney*. The Examiner states in the Final Office Action that "the drawings in each piece of prior art show respective areas that are similar in ratio to the respective areas shown in Applicant's drawing." As with *Weirich*, Applicant submits that the Examiner has misconstrued any such comparison of *Seaney* with the claimed invention.

Claim 1 recites that "an area of the valve seat and an area of a portion of the pilot actuator acted on in an axial direction by fluid flowing through the valve seat are substantially the same." This feature is apparent in Figure 2 of the present invention as previously discussed with regards to the rejection over *Weirich*. However, a check valve disclosed in *Seaney* has a poppet with a guide stem (37) that have a larger area than a valve seat (43). The valve seat must inherently be smaller than an outer diameter of the ball, which is smaller than an outer diameter of the poppet. Furthermore, the entire poppet with the guide stem is acted on by fluid flowing through the valve seat since there are no seals in *Seaney* that isolate any portion of the poppet from the fluid flowing through the valve seat. Accordingly, the poppet cross sectional area is larger than the valve seat area and cannot be "deemed to be substantially the same" as the Examiner states.

Thus, *Seaney* fails to teach, show or suggest each and every limitation of claim 1 and does not render claim 1 or any claim dependent thereon obvious. Applicant

submits that the claims are allowable. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

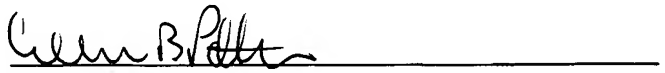
Claims 8, 10-17 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Weirich* in view of *Eike*. In response, Applicant respectfully traverses the rejection.

As discussed above regarding claim 1, *Weirich* fails to disclose that an area of the valve seat and an area of a portion of the pilot actuator acted on in an axial direction by fluid flowing through the valve seat are substantially the same, as recited in claims 1 and 10. *Eike* fails to overcome this deficiency in *Weirich*. Specifically, an area of a spool assembly of a control valve disclosed in *Eike* is larger than an area of a valve seat. For the foregoing reasons, *Weirich* in view of *Eike* fails to teach, show or suggest each and every limitation of either claim 1 or claim 10 and does not render these claims or any claims dependent thereon obvious. Accordingly, Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

Conclusion

Having addressed all issues set out in the Final Office Action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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